

Infant and Young Child Feeding Indicators and Determinants among Internally Displaced People in Aden, Yemen

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Abstract

Introduction: Because of the continued conflict and frequent displacements in Yemen, the risks to 0-23 months children, and their mother's feeding and caring practices are substantial. This study aimed to assess selected infant and young child feeding (IYCF) indicators among internally displaced mothers-infant/child pairs and related determinants in camps of internally displaced people (IDPs) in Aden governorate.

Methods: A community-based comparative cross-sectional study was conducted during January and March 2023 in Aden's IDP camps. The sampling method was two-stage cluster sampling and the Emergency Nutrition Assessment (ENA) software was used to select clusters by using the Probability Proportional to Size method (PPS). An interview questionnaire inquiring about socio-demographic characteristics of the family, child characteristics, mother's IYCF perceptions, and feeding history was used to assess IYCF indicators. The data were processed and analyzed using SPSS-25 and the World Health Organization's (WHO) and United Nations International Children's Emergency Fund (UNICEF) guide for assessing IYCF indicators. IYCF indicators were the outcome measures with a cutoff point of <0.05 significant level (p).

Results: The study included 301 children 0-23 months having the following percentages: 56.8% early initiation of breastfeeding (EIBF), 17.6% exclusive breastfeeding (EBF), 13.8% minimum acceptable diet (MAD), and 29.2% for bottle feeding (BoF). Children of mothers with cesarean sections were less likely to have EIBF compared to children of mothers with normal deliveries (AOR=0.081;95% CI:0.029-0.223). Additionally, infants of non-educated mothers were nearly ten times more likely to have EBF (AOR=10.449;95% CI:1.873-58.282) and mothers with cesarean sections were less likely to practice EBF compared to mothers with normal deliveries (AOR=0.08;95% CI:0.007-0.951). Furthermore, children of <31250 per capita family income were less likely to have MAD than higher family income (AOR=0.356; 95% CI:0.129-0.979), children of mothers who had no antenatal care (ANC) visits were less likely to have MAD (AOR=0.218;95% CI:0.089-0.536), children having non-educated fathers had nearly two times the likelihood of BoF compared to children of educated fathers (AOR=2.267;95% CI:1.201-4.277) and children of ≤ 12 months were less likely to have BoF (AOR=0.406; 95% CI:0.212-0.777). Finally, mothers who used non-bottled water for preparing artificial milk were less likely to practice BoF (AOR=0.976;95% CI:0.969-0.982).

Conclusion: The reported IYCF indicators are lower compared to the present WHO recommendations for IYCF in an emergency except for the EIBF indicator. Governmental and nongovernmental organizations need to urgently strengthen humanitarian assistance and food security interventions and IYCF education.

Keywords: Infant and Young Child feeding Indicators, Emergency, Breastfeeding, Complementary Feeding, Internally Displaced People, Yemen

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مؤشرات مختارة لتغذية الرضع وصغار الأطفال والعوامل المحددة لها في مخيمات النازحين في عدن، اليمن

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ملخص الدراسة

المقدمة: نظرًا للصراع المستمر والنزوح المتكرر في اليمن، فإن المخاطر على الأطفال بين 0-23 شهرًا وممارسات التغذية والرعاية من قبل أمهاتهم جوهريّة. هدفت هذه الدراسة إلى تقييم مؤشرات مختارة لتغذية الرضع وصغار الأطفال (IYCF) بين أمهات الرضع والأطفال النازحين والعوامل المحددة لها في مخيمات النازحين داخليًا (IDPs) في محافظة عدن.

المنهجية: أجريت دراسة مجتمعية مقطعية مقارنة خلال شهر يناير حتى شهر مارس 2023 في مخيمات النازحين داخليًا في عدن. كانت طريقة أخذ العينة هي العينة العنقودية ذات المرحلتين، حيث تم استخدام برنامج تقييم التغذية في حالات الطوارئ (ENA) لاختيار العناوين باستخدام طريقة الاحتمالية المتناسبة مع الحجم. وتم استخدام استبيان المقابلة للاستفسار عن الخصائص الاجتماعية والديموغرافية للأسرة، وخصائص الطفل، وتصورات الأم عن تغذية الرضع وصغار الأطفال، وتاريخ التغذية لتقييم مؤشرات تغذية الرضع وصغار الأطفال. تمت معالجة البيانات وتحليلها باستخدام برنامج SPSS-25 ودليل منظمة الصحة العالمية (WHO) واليونيسيف (UNICEF) لتقييم مؤشرات IYCF. كانت مؤشرات IYCF هي المتغيرات المستقلة مع قيمة الاحتمالية (p) أقل من 0.05 كمستوى دلالة معنوية.

النتائج: شملت الدراسة 301 طفلًا تتراوح أعمارهم بين 0-23 شهرًا وكانت النتائج كالتالي: 56.8% للبدء المبكر للرضاعة الطبيعية (EBF)، 17.6% للرضاعة الطبيعية الحصرية (EBF)، 13.8% للحد الأدنى من النظام الغذائي المقبول (MAD)، و29.2% للتغذية بالرضاعة الصناعية (BoF). كان احتمال EBF أقل بين أطفال الأمهات اللاتي خضعن لعمليات قيصرية مقارنة بأطفال الأمهات اللاتي لديهن ولادات طبيعية (AOR=0.081; 95% CI: 0.029-0.223). بالإضافة إلى ذلك، كان EBF أكثر احتمالاً بعشر مرات تقريباً بين أطفال الأمهات غير المتعلمات مقارنة بالأمهات ذوات الولادات الطبيعية (AOR=10.449; 95% CI: 1.873-58.282). وكان MAD أقل احتمالاً بين أطفال الأسر ذات الدخل الشهري الأقل من 31250 ريال يمني مقارنة بأطفال الأسر ذات الدخل الأعلى (AOR=0.356; 95% CI: 0.129-0.979)، وكان MAD أقل احتمالاً بين أطفال الأمهات اللاتي لم يكن لديهن زيارات للرعاية ما قبل الولادة (AOR=0.218; 95% CI: 0.089-0.536)، وكان BoF أكثر احتمالاً بين أطفال الآباء غير المتعلمين بحوالي ضعفين مقارنة بأطفال الآباء المتعلمين (AOR=2.267; 95% CI: 1.201-4.277). وكان الأطفال الذين تقل أعمارهم عن أو تساوي 12 شهرًا أقل عرضة (AOR=0.406; 95% CI: 0.212-0.777) للرضاعة الصناعية BoF وأخيراً، فإن الأمهات اللاتي استخدمن مياه غير معبأة في زجاجات لإعداد الحليب الصناعي أقل احتمالاً لتغذية أطفالهن بالرضاعة الصناعية BoF (AOR=0.976; 95% CI: 0.969-0.982).

الخلاصة: كشفت الدراسة الحالية أن نتائج مؤشرات IYCF أقل مقارنة بتوصيات منظمة الصحة العالمية الحالية في حالات الطوارئ باستثناء مؤشر البدء المبكر للرضاعة الطبيعية. المنظمات الحكومية وغير الحكومية بحاجة إلى تعزيز المساعدات الإنسانية وتدخلات الأمن الغذائي بشكل عاجل، و التثقيف والإرشاد حول مؤشرات IYCF.

كلمات مفتاحية: مؤشرات تغذية الرضع وصغار الأطفال، الطوارئ، الرضاعة الطبيعية، التغذية التكميلية، النازحون داخليًا، اليمن.

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Introduction

From birth to maturity, proper infant nutrition is critical to a child's continuous health. Correct feeding is extremely important in the first years of life since it helps to reduce morbidity and mortality, minimize the risk of chronic disease later in life, and promote regular mental and physical development [1]. Evidently, infant and young child feeding practices (IYCFPs) have a direct impact on the health, development, and nutritional condition of children under the age of two, and, as a result, on child survival. As a consequence, improving IYCFPs in children aged 0–23 months is crucial for increased nutrition, health, and development [2].

In Yemen, the gloomy picture worsens with years of devastation of continuous conflict, which makes Yemen the world's worst humanitarian crisis. Nearly 20 million Yemenis depend urgently on humanitarian aid to survive, including more than four million internally displaced people (IDPs) [3]. Furthermore, data are scarce on IYCF indicators in crises, particularly among IDPs, who are considered the most vulnerable population during conflicts. This study aimed to assess IYCF indicators among internally displaced mothers-infant/child pairs and related determinants in camps of IDPs in Aden governorate.

Methods

Study design and setting

A community-based comparative cross-sectional study was conducted during January and March 2023 at

IDPs camps distributed in seven of the eight districts of Aden (Al Buraiqeh, Al Mansura, Al Mualla, Ash Shaikh Outhman, Crater, Dar Sad, Khur Maksar).

Target population

The target population was internally displaced mothers or primary caregivers with children from 0-23 months living in households (HH) in the IDPs camps in Aden governorate. Children included did not reach 24 months on the day of the interview. Children with major handicaps, disability, or malformation were excluded.

Sampling and sample size

The sample size for children 0-23 months was calculated using the Emergency Nutrition Assessment (ENA) software 2020 version. Estimated prevalence of EBF under 6 months=10% [4], Precision=5, Design effect=2. A sample of 301 children was obtained. Then converting sample size from children to HH:

Number of HH to be visited =

sample size calculated in no. of children 0-23

Average household size x percentage of children U5 x 0.4

-Average HH size= 5³

-% U5 children = 18%⁴

Number of households to be visited = $\frac{301}{5 \times 0.18 \times 0.4^*} = 836$

Thereby, generating a sample size of 301 of children (0-23 months) associated with a sample size of HH with children (0-23 months) was determined as 836.

With a total of 33 camps and a total population size of 16329, ENA was used for the selection of clusters randomly and each cluster contained 30 HH so $836/30=27.8$ ----29clusters were included. The sampling method was two-stage cluster sampling.

The First stage:

The IDP camps found in seven of eight districts of Aden (Al Buraiqeh, Al Mansura, Al Mualla, Ash Shaikh Outhman, Crater, Dar Sad, Khur Maksar) and ENA software was used to select clusters randomly using the Probability Proportional to Size method (PPS) where larger camps have a higher chance of being selected as clusters compared to smaller camps because the probability of selection is proportional to population size of the camp.

Second stage:

Modified Expanded Programme on Immunization (EPI) [5] was used in this stage because there is no complete and recent list of HH in the camps. In the center of the camp, tossing a pen in the air technique was used to give the direction to a random HH, following the direction of the pen to the outside edge of the camp. The interview was done with all eligible subjects in HH to the right of the line in the direction of the pen until the required number of subjects was attained.

Data collection

An interview questionnaire inquiring about socio-demographic characteristics of the family, child characteristics, mother's IYCF perceptions, and feeding history was used. A pretest was conducted on 5% of the sample in the camps, which later wasn't included in the sample to test the validity and reliability of the questionnaire. Internal consistency of the items in the scales was checked and Cronbach's alpha was greater than 0.7.

Statistical analysis

Data were processed and analyzed by using the SPSS 25 and WHO and UNICEF guide [2]. The percentage was calculated as a summary measure for the qualitative variables. Mean and standard deviation (SD) were calculated for quantitative ones. The prevalence of IYCF indicators was assessed using descriptive statistics. To identify the determinants of the IYCF indicators, binary logistic regression was made to obtain adjusted odds ratios (AOR) and 95% confidence intervals (95% CI) for statistical associations.

Ethical considerations

The study proposal was approved by the Research Ethics Committee of the Faculty of Medicine and Health Sciences (Research Code: REC-134-2022). Administrative permission to survey the IDP camps was taken from the Executive Unit for IDP Camps Management. Before the study, information to the respondents, questionnaires, and informed consent were given to the mothers from the researcher to the respondents. Participants were assured of utmost privacy and that all their information was kept strictly confidential.

Results

As presented in Table 1; breastfeeding within one hour after delivery was initiated by 56.8% and EBF under six months without any additional food except for needed medicines was 17.6%. On the other hand, only 13.8% of children aged 6–23 months met the requirements for MAD, and BoF for 0–23 months was 29.2%.

Table 1: IYCF Indicators in the IDP Camps (n=301)

| IYCF Indicators | No. | % |
|--------------------------------|-----|------|
| EIBF (n=301) | 171 | 56.8 |
| EBF (children <6 months, n=85) | 15 | 17.6 |
| MAD (6–23 months, n=216) | 30 | 13.8 |
| BF 0–23 months(n=301) | 88 | 29.2 |

The child characteristics are shown in Table 2. The median age of the children was 12 (5-17) months, 31.6% of children aged 12-17 months, and 51.8% were males. The second to

third birth order was most reported (39.2%) and the highest percentage of children (58.1%) had a birth interval of 24–47 months.

Table 2: Child Characteristics in the IDP Camps in Aden (n=301)

| Child characteristic | No. | % |
|---|-----------------|------|
| Age in months | | |
| < 6 | 85 | 28.2 |
| 6-11 | 62 | 20.6 |
| 12-17 | 95 | 31.6 |
| 18-23 | 59 | 19.6 |
| Median age | 12(5-17) months | |
| Sex | | |
| Male | 156 | 51.8 |
| Female | 145 | 48.2 |
| Birth Order | | |
| 1 st birth | 74 | 24.6 |
| 2nd –3rd birth | 118 | 39.2 |
| 4 th -5 th birth | 65 | 21.6 |
| >=6 th birth | 44 | 14.6 |
| Preceding birth interval (months)(n=227) | | |
| <24 | 56 | 24.7 |
| 24–47 | 132 | 58.1 |
| ≥48 | 39 | 17.2 |

In Table 3, family characteristics are demonstrated with nearly half of participating mothers were between 20-29 years old (52.2%). The highest percentage of mothers were illiterate or read and write (57.8%), whereas the highest percentage of fathers had basic or primary to preparatory education (48.8%). The majority of

mothers were non-working (90.7%) and most of the fathers were employees (91.0%). The highest percentage of the families had less than five members (63.1%) with a monthly family income between 31250 < 61250 (27.6%) Yemeni Riyal/month.

Table 3: Family Characteristics in IDP Camps in Aden (n=301)

| Family characteristics | No. | % |
|--|------------------|----------|
| Mother's age (years) | | |
| <20 | 30 | 10.0 |
| 20-29 | 157 | 52.2 |
| ≥30 | 114 | 37.9 |
| Mean age ±SD | 27.1±6.69 | |
| Mother's education | | |
| Illiterate/read and write | 174 | 57.8 |
| Basic/primary to preparatory | 101 | 33.6 |
| Secondary and above | 26 | 8.6 |
| Mother's working status | | |
| Working | 28 | 9.3 |
| Non-working | 273 | 90.7 |
| Father's education | | |
| Illiterate/read and write | 113 | 37.5 |
| Basic/primary to preparatory | 147 | 48.8 |
| Secondary and above | 41 | 13.6 |
| Father's working status | | |
| Unemployed | 27 | 9.0 |
| Employed | 274 | 91.0 |
| Family size (persons) | | |
| <5 | 190 | 63.1 |
| 5-6 | 39 | 13.0 |
| 7-8 | 41 | 13.6 |
| ≥9 | 31 | 10.3 |
| Per Capita Monthly Family income (YR) | | |
| ≤20000 | 73 | 24.3 |
| 20000 < 31250 | 74 | 24.6 |
| 31250 < 61250 | 83 | 27.6 |
| ≥ 61250 | 71 | 23.6 |

Note: YR: Yemeni Riyal

Displacement-related characteristics in Table 4 show that the highest percentage of IDP families receive assistance (60.1%) mainly as money and food assistance (43%) but mostly in an intermittent way (98%).

Moreover, bottled water was reported with the highest percentage (80.2%) as their source of water for preparing BMS.

Table 4: Displacement-related Characteristics in the IDP Camps in Aden (n=301)

| Displacement related characteristics | No. | % |
|---|-----|------|
| Family assistance as IDPs | | |
| Yes | 181 | 60.1 |
| No | 120 | 39.9 |
| Type of Assistance(n=181) | | |
| Money alone | 47 | 26.0 |
| Food or Materials alone | 56 | 31.0 |
| Both | 78 | 43.0 |
| Continuity of Assistance(n=181) | | |
| Continue | 3 | 2.0 |
| Intermittent | 178 | 98.0 |
| Source of water for preparing BMS (n=96) | | |
| Bottled water | 77 | 80.2 |
| Non bottled water | 19 | 19.8 |

ANC and delivery characteristics in Table 5 reveal that nearly three-quarters of mothers (77.7%) had ANC visits, and the highest percentage

(61%) had between 2-4 visits, with 77.8% receiving education on infant feeding during ANC. The majority of mothers (87.7%) had vaginal delivery.

Table 5: Antenatal Care and Delivery Characteristics in the IDP Camps in Aden (n=301)

| ANC and delivery characteristics | No. | % |
|--|-----|------|
| ANC visit | | |
| Yes | 234 | 77.7 |
| No | 67 | 22.3 |
| No. of ANC visit(n=234) | | |
| 1 | 31 | 13.4 |
| 2-4 | 143 | 61.0 |
| >4 | 60 | 25.6 |
| Educated on infant feeding during ANC (n=234) | | |
| Yes | 182 | 77.8 |
| No | 52 | 22.2 |
| Mode of delivery | | |
| Normal (vaginal delivery) | 264 | 87.7 |
| CS | 37 | 12.3 |

In Table 6, children of mothers with CS were less likely to have EIBF compared to children of mothers with normal deliveries (AOR= 0.081; 95% CI:

0.029- 0.223). On the other hand, two predictors were identified to be significantly associated with the EBF indicator: having no education among

mothers associated with nearly ten times more chance to have EBF (AOR= 10.449; 95% CI: 1.873-58.282) having normal deliveries (AOR=0.081; 95% CI: 0.007-0.951). For all infants aged <6 months, two variables were significant predictors for MAD among children aged 6–23 months: per capita family income of <31250 associated with less chance to have MAD than higher family income (AOR= 0.356; 95% CI: 0.129- 0.979) and not having ANC visits associated with less likelihood to have MAD (AOR= 0.218; 95% CI: 0.089 - 0.536). Furthermore, three predictors were significantly

whereas delivery with CS associated with less chance to practice EBF compared to associated with BoF: children of non-educated fathers had nearly two times the likelihood of BoF compared to children of educated fathers (AOR= 2.267; 95% CI: 1.201- 4.277), children of ≤12 months had less likelihood to have BoF (AOR= 0.406; 95% CI: 0.212-0 .777) and mothers who use non-bottled water for preparing artificial milk were less likely to practice BoF (AOR= 0.976; 95% CI: 0.969-0.982).

Table 6: Predictors of IYCF Indicators in the IDP Camps in Aden

| Predictor | | P | AOR | 95% CI |
|--|-------------------|--------|--------|--------------|
| EIBF | | | | |
| Mode of delivery | Normal* | <0.001 | 1.00 | - |
| | Cesarean section | | 0.081 | 0.029- 0.223 |
| EBF | | | | |
| Mother's education | Non-educated | 0.007 | 10.449 | 1.873-58.282 |
| | Educated* | | 1.00 | - |
| Mode of delivery | Normal* | 0.045 | 1.00 | - |
| | Cesarean section | | 0.08 | 0.007-0.951 |
| MAD | | | | |
| Family income (YR) | <31250 | 0.045 | 0.356 | 0.129- 0.979 |
| | ≥31250* | | 1.0 | - |
| ANC visit | Yes* | 0.001 | 1.00 | - |
| | No | | 0.218 | 0.089– 0.536 |
| BoF | | | | |
| Father's education | Non-educated | 0 .012 | 2.267 | 1.201- 4.277 |
| | Educated* | | 1.00 | - |
| Child age in months | ≤12 | 0.006 | 0.406 | 0.212-0 .777 |
| | >12-23* | | 1.0 | - |
| Source of water for preparing Artificial milk | Bottled water* | <0.001 | 1.00 | - |
| | Non bottled water | | 0.976 | 0.969-0.982 |

Discussion

This is the first study aimed to assess the IYCFPs and their determinants in IDP camps in Aden. IYCFPs among the mothers of 0-23 children were assessed by using four indicators of IYCF of the WHO namely EIBF, EBF, MAD, and BoF, and assesses the IYCFPs determinants including child's characteristics, family characteristics, displacement-related characteristics, and ANC and delivery characteristics.

This study showed that EIBF was 56.8%. Evidently, some studies in emergency settings reported a higher prevalence of EIBF such as a study in Myanmar in 2015 (72%) [6], a study done in Saharawi refugee camps in Algeria in 2017 (65%) [7], and in a Nigerian survey among IDPs 2019 (84%) [8]. However, the EIBF in the presented study was lower than the finding of a study conducted on Syrian Refugees in Jordan in 2016 (46%) [9]. This may highlight the differences between cultural settings.

Nonetheless, only 17.6% of IDP infants were exclusively breastfed which is very far from the recommendation but exceeds the finding encountered in Algeria 2017(11.7%) [7]. However, this prevalence was less than in some studies such as a study in IDP camps in Myanmar 2015 (54%) [6], IDP camps in South Sudan in 2017(35%) [10], and IDPs in a Nigerian survey 2019 (33%) [8]. These different results displayed a wide variation of EBF prevalence among IDPs in different countries. This variation may be due to differences in study

area, study method, and socio-cultural aspects [11].

On the other hand, only 13.8% of children aged 6-23 months met MAD and this prevalence was lower than reported results among IDP camps in South Sudan, 2017 (26%) [10] and more than the prevalence in a study among Syrian refugees in North Lebanon, 2022 (9.2%) [12]. The different prevalences of MAD may be due to that IDPs are mainly depending on humanitarian aid, and lack of sufficient humanitarian assistance which led to deficient resources necessary for childcare [13]. Furthermore, food insecurity can lead to stress which is frequently brought on by the inability to buy adequate food for the family [14].

Using BoF for an infant increases the child's risk of infection and decreases the child's interest in breastfeeding which leads to a decline in milk production [6]. The prevalence of BoF in this study was 29.2% which is higher than the study in IDPs in Myanmar 2015(13%), even though best practices discourage any BoF [6] and in Nigerian IDPs survey 2019 (16.7%) [8]. This increasing prevalence of bottle feeds may be due to its ease of use [15].

The binary logistic regression analysis confirmed that EIBF was significantly associated with the mode of delivery as children delivered with cesarean sections were less likely to have EIBF compared to children delivered normally (AOR= 0.081; 95% CI: 0.029- 0.223). One of the most frequent causes of delayed breastfeeding initiation globally is

cesarean delivery as mothers may require hours of observation following a cesarean section, usually apart from their child [16].

Additionally, the regression analysis affirmed that infants of non-educated mothers were more likely to have EBF than infants of educated mothers (AOR =10.449; 95% CI: 1.873-58.282). Similarly, Ethiopian-educated mothers (2017) were found to be less likely to exclusively breastfeed than non-educated mothers. This may be because more work opportunities and insufficient maternity leave for educated mothers may result in less time spent with their children and a weakened EBF practice. The other cause for this could be improved access to and knowledge of human milk substitutes [17]. In the same context, mode of delivery was associated with EBF as mothers with cesarean sections were less likely to practice EBF (AOR= 0.081; 95% CI: 0.007-0.951). This finding is similar to what was found in a Syrian refugee camp in Lebanon (2022) where natural delivery increased the odds of EBF at 6 months [12].

Moreover, the binary logistic regression found that children of <31250 per capita family income are less likely to have MAD than more family income (AOR= 0.356; 95% CI: 0.129- 0.979). Likewise, a study in the Philippines (2018) showed that children in the richest quintile were more likely to meet MAD than those in the poorest quintile [18], and this might be because the mothers from the richest households were more likely to provide their children with highly nutritious foods than mothers from poor households, who were more likely to focus on food quantity

[19]. In addition, mothers who had no ANC visits were less likely to have MAD (AOR= 0.218; 95% CI: 0.089– 0.536). Similarly, findings from studies in Ethiopia (2021) [20] and Bangladesh (2023) [21] indicated that mothers are more likely to meet their children's MAD goals if they have at least four ANC visits from medical professionals.

On the other side, the binary regression illustrated that children age ≤ 12 months were less likely to have BF (AOR= 0.406; 95% CI: 0.212-0.777) than the older age group. A similar trend was reported in two studies in Ethiopia (2017) found that infants aged 0–5 months old were less likely to be bottle fed than older children [17] and in Namibia (2017) reported that increasing risk of bottle feeding with increasing age of child [22]. In addition, children having non-educated fathers had nearly two times the likelihood chance of BoF compared to children of educated fathers (AOR= 2.267; 95% CI: 1.201- 4.277). This finding was contrary to the finding in a study in Bangladesh (2010) which examined the association between parental education and BoF practices and revealed that BoF practices are more likely with children whose fathers had higher levels of education compared to children with non-educated fathers [23]. In Vietnam (2016), it was reported that fathers may play a positive role in influencing the good breastfeeding practices of mothers if educated and counselled in health centers about appropriate IYCFPs [24]. Furthermore, the study confirmed that BoF was significantly associated with mothers who used non-bottled water for preparing artificial milk

(AOR= 0.976; 95% CI: 0.969-0.982) and this finding is contrary to what was reported from a study in Ethiopia (2018) in which HHs who use treated water were more likely to have poor IYCFPs than HHs who did not treat water before use. Poor IYCFPs may be the result of cultural and traditional practices that have an impact on the status of these feeding practices and the lack of awareness regarding the significance of appropriate breastfeeding [25].

Limitations

The cross-sectional design restricts the capacity to determine the causality relationship between the outcome indicators and independent variables. There could be the prospect of recall bias because mothers were questioned to remember events that happened at birth or sometimes ago. Nonetheless, using an interviewer-administered questionnaire that leads respondents through a structured process can help reduce cognitive load and minimize recall errors. Additionally, training interviewers to ask questions thoughtfully and to probe gently encourages accurate responses while avoiding leading questions. Conducting in-depth interviews to explore feeding practices further provides context that aids caregivers in recalling their practices more accurately. Together, these approaches can significantly reduce recall bias and enhance the reliability of data related to infant and child feeding indicators.

Conclusion

The current study revealed poor IYCFPs among children of 0-23

months living in IDP camps in Aden, Yemen. The reported IYCF indicators are low compared to the present WHO recommendations for IYCF-E except for EIBF indicator which is considered good in case of emergency.

The determinants for IYCFPs in this study derived from gaps in the mother's practices and perceptions regarding child feeding. The data can be supportive in documenting IYCFPs levels among IDPs in Aden and prioritizing and designing future intervention programs needed for mothers in IDP camps. Moreover, improving mothers' IYCF perceptions through breastfeeding education programs and counseling during ANC is important. Governmental and nongovernmental organizations need to urgently strengthen humanitarian assistance and food security interventions and providing IYCF education and counseling for mothers during ANC is important to encourage mothers to improve their IYCFPs.

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